

Laparoscopic Repair of Perineal Hernia

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ABSTRACT

Perineal hernia is a rare but known complication following major pelvic surgery. It may occur spontaneously or following abdominoperineal resection, sacrectomy, or pelvic exenteration. Very little is known about spontaneous perineal hernia. Surgical repair via open transabdominal and transperineal approaches has been previously described. We report laparoscopic repair of spontaneous and postoperative perineal hernia in 2 patients.

Key Words: Hernia, Perineal hernia, Transabdominal, Transperineal.

INTRODUCTION

Perineal hernia is rare.¹⁻¹³ Weakness of the endopelvic fascia and musculature lead to herniation of the intraabdominal and pelvic organs, such as small bowel, colon, and bladder. The majority of cases are secondary to traumatic injury to the perineum or secondary to major pelvic operations, such as abdominoperineal resection and pelvic exenteration.¹⁻⁷ An incidence up to 7% has been reported following abdominoperineal resection.² Congenital or spontaneous perineal hernia is extremely rare.⁸⁻¹³ Surgical repair has been previously described via transabdominal, transperineal, and combined approaches.^{2-4,6-12} Laparoscopic repair with mesh has been described for postoperative perineal hernia following abdominoperineal resection.⁵ We report 2 cases of perineal hernia repaired laparoscopically.

PATIENTS AND METHODS

Case Report One

A 57-year-old woman with a history of childhood poliomyelitis presented with a 2-year history of perineal fullness and pain. There was no prior history of childbirth, trauma, or pelvic surgery. The patient had poliomyelitis-related neuropathy involving the right lower extremity with worsening neurological symptoms in her right leg with progression of calf atrophy for 5 years prior to presentation. A computed tomographic (CT) scan of the pelvis revealed a perineal hernia on the right, most noticeable during the Valsalva maneuver (**Figure 1**). Since the hernia was symptomatic, the patient elected to proceed with surgical intervention.

With the patient in the lithotomy position and under general anesthesia, the abdomen was insufflated via a 10-mm infraumbilical trocar. Under direct visualization, 3 additional trocars were introduced: a 12-mm trocar in the right lower quadrant, a 5-mm trocar in the suprapubic area, and a 5-mm trocar in the left lower quadrant. The patient was placed in the Trendelenburg position, and the small bowel and a redundant sigmoid colon were swept out of the pelvis and retracted superiorly. The uterus was suspended anteriorly. A hernia

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Figure 1. Computed tomography of pelvis demonstrated right perineal hernia with opacified loops of small intestine.

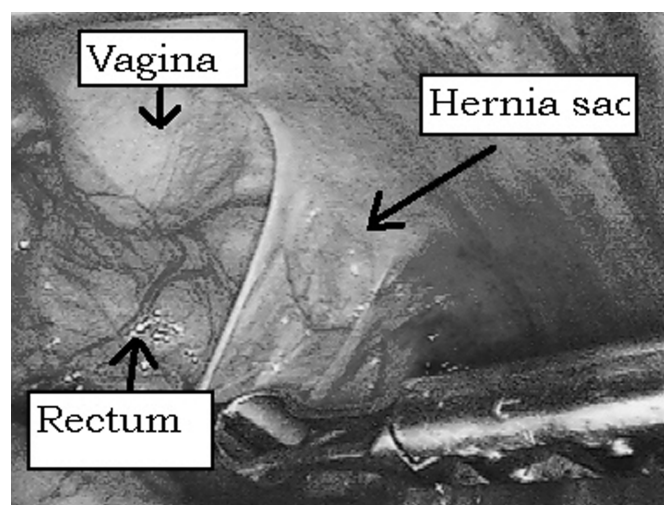


Figure 2. Laparoscopic view of hernia sac.

defect with a sac was noted in the right pelvic floor (**Figure 2**). The defect extended anteriorly from the medial edge of the uterosacral ligament and posterolaterally along the junction of the puborectalis/pubococcygeus muscle with the ischiococcygeus muscles (**Figure 3**). The hernia was repaired without mesh, keeping the vagina and rectum out of harm's way by having the second assistant intermittently insert a finger in both organs to identify their lateral edges. The most anterior and posterior aspects of the hernia were first identified and approximated with 0 Ethibond sutures in a single interrupted fashion. The remainder of the defect was then easily noted and closed in the same fashion (**Figure 4**). The repair was under no undue tension, and the suture approximation was adequate. Blood loss was minimal. The patient's postoperative

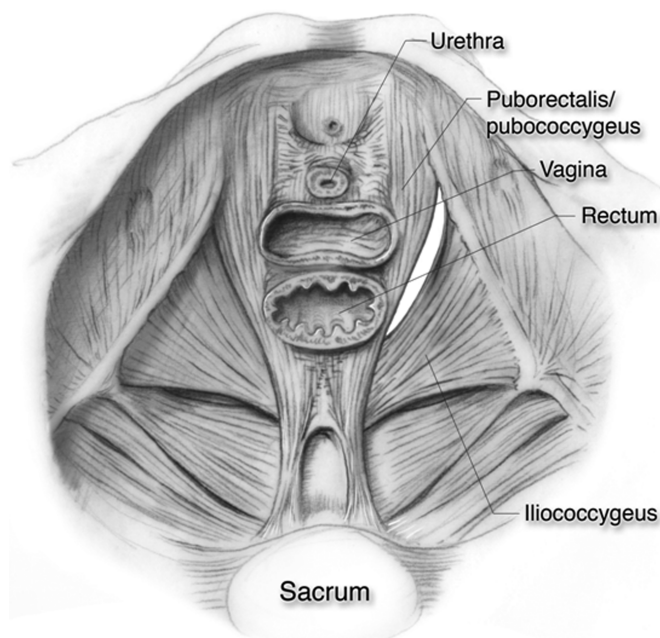


Figure 3. Artist illustration of pelvic floor defect.

recovery was uneventful, and she was discharged home on postoperative day 1. She remains free of recurrence 40 months following her repair.

Case Report Two

A 67-year-old gentleman with a history of T3N0 anal carcinoma underwent laparoscopic abdominoperineal resection with left Sartorius muscle flap closure of a large perineal wound. Ten months postoperatively, he presented with a symptomatic perineal hernia (**Figure 5**). Computed tomography of the pelvis confirmed the hernia without evidence of recurrent malignancy (**Figure 6**). The patient consented to operative intervention.

With the patient in the lithotomy position, three 10-mm trocars were placed in the abdomen: 1 in the supraumbilical location and 2 in the right lower and middle abdomen. The patient was placed in the Trendelenburg position, and the operation was initiated with adhesiolysis. Once the pelvis was exposed and loops of small intestine retracted superiorly, a large hernia defect was appreciated measuring 8cm x 12cm as its greatest dimension (**Figure 7**). A 10 x 20 cm Bard Composix mesh (Davol, Cranston, RI, USA) was placed over the hernia defect. The mesh was laid on the pelvic floor, just below the sacral promontory and was secured to the pelvic floor sidewalls and on the posterior bladder wall by using the Protack 5-mm device (Covidien, Norwalk,

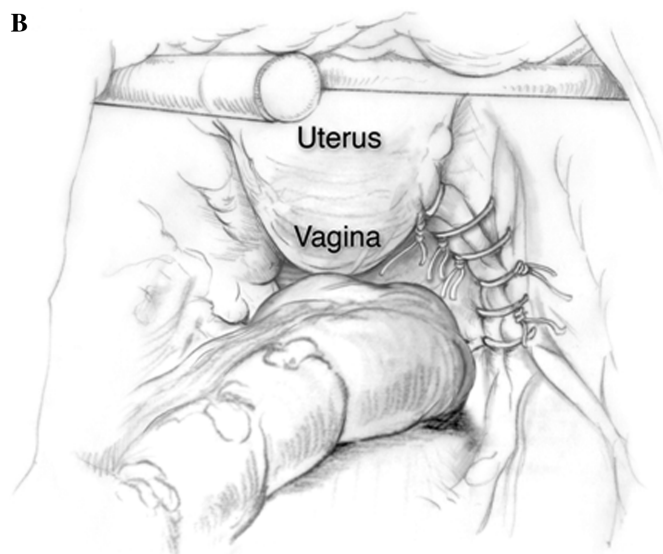
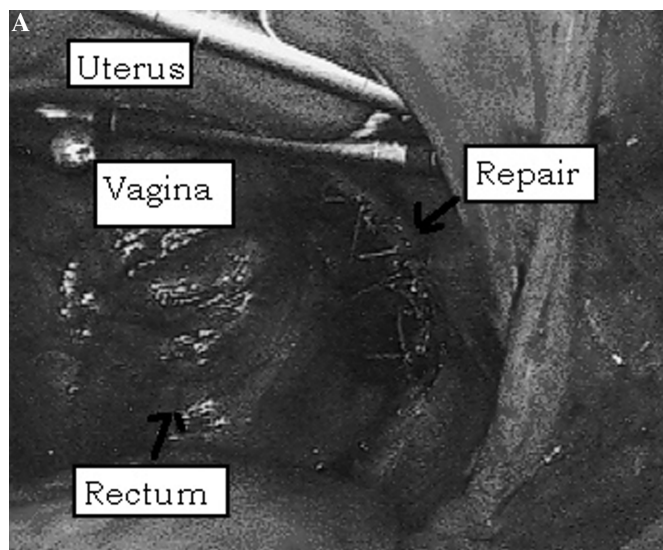


Figure 4. Primary repair of spontaneous perineal hernia.

CT, USA) (**Figure 8**). Once the mesh was secured, omentum was brought down to cover it. The intraoperative course was uneventful, with minimal blood loss. The patient was discharged home on postoperative day 1. He remains free of hernia recurrence 6 months postoperatively.

DISCUSSION

Perineal hernia in humans is a rare condition and is usually caused by prior pelvic operation or trauma.¹⁻¹³ Spontaneous perineal hernia has previously been reported in



Figure 5. Perineal hernia postabdominoperineal resection.



Figure 6. Computed tomography demonstrated perineal hernia postabdominoperineal resection.

animals, such as cats and some dog species (Boston Terrier, Boxer, Collie, Corgi, Kelpie, Dachshund, Old English Sheepdog, and Pekingese).¹⁴⁻¹⁷ The hernia can be unilateral or bilateral and often noted between the external anal sphincter and levator ani muscle and occasionally between the coccygeus muscle and levator ani. Neurogenic atrophy of pelvic floor musculature has been documented in dogs.¹⁶ Spontaneous perineal hernia in humans is extremely rare.⁸⁻¹³ Congenital cases have been reported in infancy and childhood and spontaneous cases in adults.⁸⁻¹² Although the exact cause of a spontaneous perineal hernia is unknown, a neurological basis is quite plausible based on the animal data.¹⁶ Such a theory would certainly be supported by our first patient, based on her underlying disease, the temporal relationship of her wors-

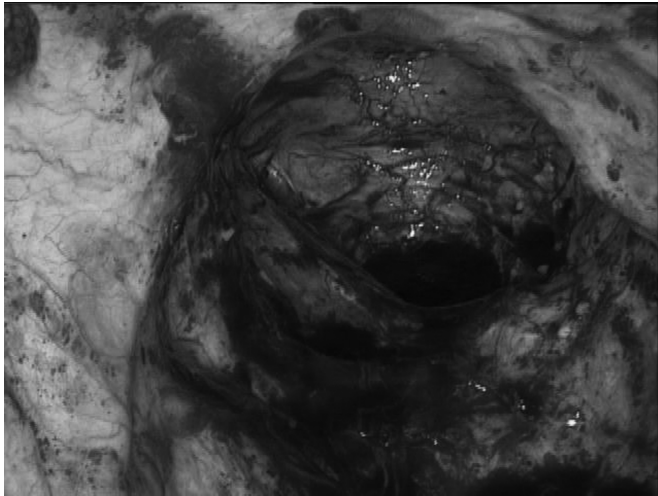


Figure 7. Intraoperative view of perineal hernia.

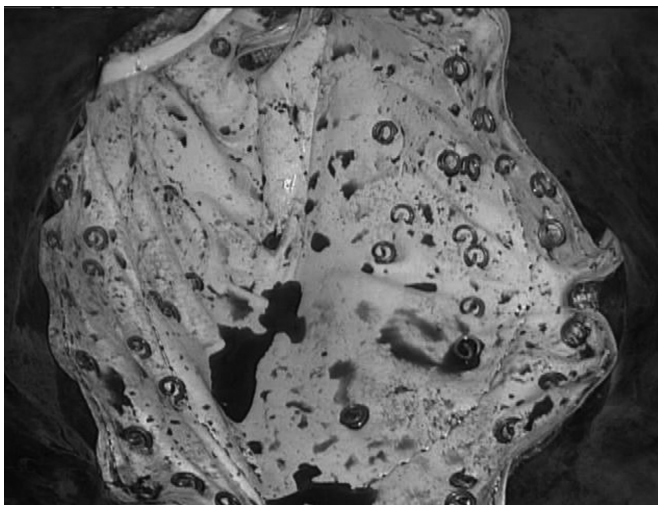


Figure 8. Mesh repair of perineal hernia.

ening symptoms, and the development of the hernia on the side affected by the poliomyelitis.

Several surgical approaches have been advocated for the treatment of perineal hernia, including transabdominal and perineal approaches.^{2-4,6-12} In a postoperative hernia where the rectum and vagina may be absent, the exposure and access to the pelvic floor and site of the defect may be facilitated compared with the setting of a spontaneous hernia. In our first case, we chose to repair the hernia primarily without mesh placement to avoid any sexual or bowel dysfunction or mesh-related complications, such as erosion, because of the close proximity to these organs. The primary repair without mesh

proved durable without evidence of recurrent disease in 40 months of follow-up.

Laparoscopic repair with mesh has been previously reported for postoperative perineal hernia, following laparoscopic abdominoperineal resection.⁵ In our second case, we performed a laparoscopic repair of the hernia by using mesh. Because of the size of the defect, a primary repair without mesh was not an option. The mesh was secured to the pelvic sidewall in a tension-free fashion. Placement of the mesh was facilitated by the absence of the pelvic organs. Because of the rarity of this condition, data are limited on the short- and long-term outcome of laparoscopic repair. We chose a dual mesh in our patient to minimize mesh-related complications involving the small intestine. Biologic material has recently been advocated as an alternative to synthetic mesh, but no long-term data are available to support its durability.¹⁸

CONCLUSION

Laparoscopic repair of spontaneous or postoperative perineal hernia is technically feasible, is associated with rapid recovery and minimal complications, and has a good long-term outcome. The 2 patients described in this report highlight the technical aspect of the laparoscopic approach to this rare condition.

References:

1. Moschcowitz AV. Perineal hernia. *Surg Gynecol Obstet.* 1916;26:514-520.
2. Hullsieck HE. Perineal hernia after abdominoperineal resection. *Am J Surg.* 1956;92:735-738.
3. Beck DE, Fazio VW, Jagelman DG, et al. Postoperative perineal hernia. *Dis Colon Rectum.* 1987;30:21-24.
4. So JB, Palmer MT, Shellito PC. Postoperative perineal hernia. *Dis Colon Rectum.* 1997;40(8):954-957.
5. Ghellai AM, Saleem I, Stoker ME. Laparoscopic repair of postoperative perineal hernia. *Surg Laparosc Endosc Percutan Tech.* 2002;12(2):119-121.
6. Remzi FH, Oncel M, WU JS. Meshless repair of perineal hernia after abdominoperineal resection: case report. *Techniques in Coloproctology.* 2005;9:142-144.
7. Abdul Jabbar AS. Post-operative perineal hernia. *Hernia.* 2002;6(4):188-190.
8. Nieto-Zermeno J, Godoy-Murillo JG, Cadena-Santillana JL. Posterior perineal hernia. Report of a case and review of the literature. *Bol Med Hosp Infant Mex.* 1993;50(10):741-744.

9. Salum MR, Prado-Kobata MH, Saad SS, Matos D. Primary perineal posterior hernia: an abdominoperineal approach for mesh repair of the pelvic floor. *Clinics*. 2005;60(1):71–74.
10. Mandarano R, Giorgi G, Venturini N, et al. Perineal Hernia. *Minerva Chir*. 54(7–8):523–529, 1999.
11. Poon FW, Lauder JC, Finlay IG. Perineal herniation. *Clin Radiol*. 1993;47:49–51.
12. Hubbard AM, Egelhoff JC. Posterior perineal hernia presenting in infancy as a gluteal mass. *Pediatr Radiol*. 1989;19:246.
13. Lubat E, Gordon RB, Birnbaum BA, Megibow AJ. CT diagnosis of posterior perineal hernia. *AJR*. 1990;154:761–762.
14. Hosgood G, Hedlund CS, Pechman RD, Dean PW. Perineal herniorrhaphy: perioperative data from 100 dogs. *J Am Anim Hosp Assoc*. 1995;31:331–342.
15. Welches CD, Scavelli TD, Aronsohn MG, Matthiesen DT. Perineal hernia in the cat: a retrospective study of 40 cases. *J Am Anim Hosp Assoc*. 1992;28:431–438.
16. Sjollem BE, Venker-van Haagen AJ, van Sluijs FJ, et al. Electromyography of the pelvic diaphragm and anal sphincter in dogs with perineal hernia. *Am J Vet Res*. 1993;54:185–190.
17. Bongartz A, Carofiglio F, Balligand M, Heimann M, Hamaide A. Use of autogenous fascia lata graft for perineal herniorrhaphy in dogs. *Vet Surg*. 2005;34(4):405–413.
18. Al-Haddad AA, Hellinger MD, Akerman SC. Surgisis mesh repair of a postsacrectomy perineal hernia along with posterior proctosigmoidectomy for concomitant stricture. *Am Surg*. 2007. Nov; 73(11):1129–1132.